

ABSTRACT OF THE DISCLOSURE

A mobile station is constructed to include a transceiver comprising a transmitter circuit having a transmit RF filter that passes a transmit band of frequencies that is partitioned into transmit frequency channels and a receiver circuit having a receiver RF filter that passes a receive band of frequencies that is partitioned into receiver frequency channels. Also included is an antenna coupled through a duplexer to an output of the transmitter circuit and to an input of the receiver circuit. The mobile station further includes circuitry, responsive to a currently selected RF channel, for compensating for a non-ideal operation of the RF filters and the duplexer over a full bandwidth range of the transmit and receive frequencies. The compensating circuitry compensates for RF filter operation in a transmit RF channel that is nearest to the band of receive RF frequencies and/or compensates for RF filter operation in a receive RF channel that is nearest to the band of transmit RF frequencies. The compensation circuitry can be implemented using a digital signal processor (DSP) device or a finite impulse response (FIR) device. In the preferred embodiment the transmit and the receive ranges of frequencies are each about 60MHz and are each partitioned into 12 frequency channels, and a highest frequency channel in the transmit range of frequencies and a lowest frequency channel in the receive range of frequencies are separated by about 20MHz.